

CLAIMS

1. An optical recording medium in which write-once or rewrite operation of data can be performed with block including a group of data being as unit,

wherein buffer areas for random access are respectively disposed before and after respective blocks,

whereby when new block is recorded, the block is recorded in the state where the buffer area provided with respect to the block and the buffer area provided with respect to existing block adjacent to the block overlap with each other.

2. The optical recording medium as set forth in claim 1, wherein recording unit block is constituted by block and the buffer areas before and after the block, and guard area or areas is or are provided at the rear portion of one recording unit block or at the rearmost portion of successive plural recording unit blocks.

3. The optical recording medium as set forth in claim 1, wherein the buffer area disposed immediately before block includes guard area for overlap at the time of recording, and preamble for signal processing, and signal patterns for frequency pull-in of Phase Locked Loop (PLL) at the time of data reproduction and Auto Gain Control (AGC) are recorded at the guard area or the preamble.

4. The optical recording medium as set forth in claim 1, wherein the buffer area or areas disposed immediately before or immediately after block, or immediately before and immediately after block includes or include guard area for

overlap at the time of recording, and signal pattern for automatic adjustment according to power of light source is recorded within the guard area.

5. The optical recording medium as set forth in claim 1, wherein the buffer area disposed immediately before block includes guard area for overlap at the time of recording, and preamble for signal processing, and plural synchronization patterns having distances and identification information which are different from each other are recorded at the preamble.

6. The optical recording medium as set forth in claim 1, wherein the buffer area disposed immediately after block includes postamble for time adjustment of signal processing, and guard area for adjustment of recording end position, and signal pattern for Phase Locked Loop (PLL) according to reproduction clock is recorded at the postamble.

7. The optical recording medium as set forth in claim 1, wherein the buffer area disposed immediately after block includes postamble for time adjustment of signal processing, and guard area for adjustment of recording end position, and signal pattern for detecting reproduction end of the block is recorded at the postamble.

8. The optical recording medium as set forth in claim 3, wherein the signal pattern is repetitive pattern of $3T/3T/2T/2T/5T/5T$.

9. The optical recording medium as set forth in claim 4, wherein the signal pattern is repetitive pattern of $3T/3T/2T/2T/5T/5T$.

10. The optical recording medium as set forth in claim 6, wherein the signal pattern is repetitive pattern of 3T/3T/2T/2T/5T/5T.

11. An information processing apparatus adapted for performing recording or reproduction of information with respect to an optical recording medium in which write-once or rewrite operation of data can be performed with block including a group of data being as unit,

the information processing apparatus including data recording means for generating recording channel data in which buffer areas for random access are added before and after respective blocks to record the data onto an optical recording medium,

wherein when recording of new block is started with respect to a first block and a second block which have been already recorded, the block is recorded in the state where the buffer area disposed immediately before the block and the buffer area disposed immediately after the first block adjacent to the block overlap with each other, and when recording of block is completed, the block is recorded in the state where the buffer area disposed immediately after the block and the buffer area disposed immediately before the second block adjacent to the block overlap with each other.

12. The information processing apparatus as set forth in claim 11, wherein recording and reproduction are performed with recording unit block including block the buffer areas before and after the block being as processing unit, and guard

area or areas is or are provided at the rear portion of one recording unit block, or at the rearmost portion of successive plural recording unit blocks at the time of recording of recording channel data.

13. The information processing apparatus as set forth in claim 11, wherein the buffer area disposed immediately before block includes guard area for overlap at the time of recording, and preamble for signal processing,

the information processing apparatus comprising:

data reproducing means for reproducing signal pattern recorded at the guard area or the preamble to use the signal pattern thus reproduced as signal for frequency pull-in of Phase Locked Loop (PLL) and Auto Gain Control (AGC).

14. The information processing apparatus as set forth in claim 11, comprising:

data reproducing means for reproducing signal pattern recorded within guard area for overlap at the time of recording of the buffer area or areas disposed immediately before or immediately after block, or immediately before and immediately after block to use the signal pattern thus reproduced as a signal for automatic adjustment according to power of light source.

15. The information processing apparatus as set forth in claim 11, comprising:

data reproducing means for reproducing plural synchronization patterns recorded at preamble for signal processing of the buffer area disposed immediately before block to establish synchronization.

16. The information processing apparatus as set forth in claim 11, comprising:

data reproducing means for reproducing signal pattern recorded at postamble for time adjustment of signal processing of the buffer area disposed immediately after block to use the signal pattern thus reproduced as Phase Locked Loop (PLL) of reproduction clock.

17. The information processing apparatus as set forth in claim 11, comprising:

data reproducing means for reproducing signal pattern recorded at postamble for time adjustment of signal processing of the buffer area disposed immediately after block to perform detection of reproduction end according to the block.

18. A recording method for performing write-once or rewrite operation of data with block including a group of data being as unit,

wherein buffer areas for random access are respectively disposed before and after respective blocks,

whereby when new block is recorded, the block is recorded in the state where the buffer area provided with respect to the block and the buffer area provided with respect to existing block adjacent to the block overlap with each other.

19. The recording method as set forth in claim 18, wherein recording unit block is constituted by block and the buffer areas before and after the block, and guard area or areas is or are provided at the rear portion of one recording unit block or at the rearmost portion of successive plural recording unit blocks.

20. The recording method as set forth in claim 18, wherein the buffer area disposed immediately before block includes guard area for overlap at the time of recording, and preamble for signal processing, and signal patterns for frequency pull-in of Phase Locked Loop (PLL) at the time of data reproduction and Auto Gain Control (AGC) are recorded at the guard area or the preamble.

21. The recording method as set forth in claim 18, wherein the buffer area or areas disposed immediately before or immediately after block, or immediately before and immediately after block includes or include guard area for overlap at the time of recording, and signal pattern for automatic adjustment according to power of light source is recorded within the guard area.

22. The recording method as set forth in claim 18, wherein the buffer area disposed immediately before block includes guard area for overlap at the time of recording, and preamble for signal processing, and plural synchronization patterns having distances and identification information which are different from each other are recorded at the preamble.

23. The recording method as set forth in claim 18, wherein the buffer area disposed immediately after block includes postamble for time adjustment of signal processing, and guard area for adjustment of recording end position, and signal pattern for Phase Locked Loop (PLL) according to reproduction clock is recorded at the postamble.

24. The recording method as set forth in claim 18, wherein the buffer area

disposed immediately after block includes postamble for time adjustment of signal processing, and guard area for adjustment of recording end position, and signal pattern for detecting reproduction end of the block is recorded at the post-amble.

25. The recording method as set forth in claim 20, wherein repetitive pattern of 3T/3T/2T/2T/5T/5T is recorded as the signal pattern.

26. The recording method as set forth in claim 21, wherein repetitive pattern of 3T/3T/2T/2T/5T/5T is recorded as the signal pattern.

27. The recording method as set forth in claim 23, wherein repetitive pattern of 3T/3T/2T/2T/5T/5T is recorded as the signal pattern.